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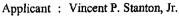
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- (a) nucleotide 120 of SEQ ID NO:1 wherein T is replaced by C;
- (b) nucleotide 464 of SEQ ID NO:1 wherein T is replaced by G;
- (c) nucleotide 519 of SEQ ID NO:1 wherein C is replaced by T;
- (d) nucleotide 668 of SEQ ID NO:1 wherein C is replaced by T;
- (e) nucleotide 1059 of SEQ ID NO:1 wherein T is replaced by C;
- (f) nucleotide 1289 of SEQ ID NO:1 wherein C is replaced by A;
- (g) nucleotide 1308 of SEQ ID NO:1 wherein T is replaced by C; and
- (h) nucleotide 1784 of SEQ ID NO:1 wherein G is replaced by A; or the complement thereof.



- 183. (Amended) An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:1 (methylenetetrahydrofolate reductase), the probe comprising at least two of:
 - (a) nucleotide 120 of SEQ ID NO:1 wherein T is replaced by C;
 - (b) nucleotide 464 of SEQ ID NO:1 wherein T is replaced by G;
 - (c) nucleotide 519 of SEQ ID NO:1 wherein C is replaced by T;
 - (d) nucleotide 668 of SEQ ID NO:1 wherein C is replaced by T;
 - (e) nucleotide 1059 of SEQ ID NO:1 wherein T is replaced by C;
 - (f) nucleotide 1289 of SEQ ID NO:1 wherein C is replaced by A;
 - (g) nucleotide 1308 of SEQ ID NO:1 wherein T is replaced by C; and
- (h) nucleotide 1784 of SEQ ID NO:1 wherein G is replaced by A; or the complement thereof.
- 184. (Amended) The probe of claim 182 or 183 comprising no more than 500 contiguous nucleotides of SEQ ID NO:1.
- 185. (Amended) The probe of claim 182 or 183 comprising no more than 200 contiguous nucleotides of SEQ ID NO:1.



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186. (Amended) The probe of claim 182 or 183 comprising no more than 100 contiguous nucleotides of SEQ ID NO:1.

187. (Amended) The probe of claim 182 or 183 comprising no more than 50 contiguous nucleotides of SEQ ID NO:1.

- 188. (Reiterated) The probe of claim 182 or 183 comprising DNA.
- 189. (Reiterated) The probe of claim 182 or 183 comprising a peptide nucleic acid.

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- 190. (Reiterated) The probe of claim 182 or 183 further comprising a detectable label.
- 191. (Reiterated) The probe of claim 190 wherein the detectable label is a fluorescent label.
 - 192. (Amended) A method comprising:
- (a) providing a test sample comprising nucleic acid molecules present in a biological sample obtained from an individual;
- (b) contacting the test sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:1, the probe comprising at least one of:
 - (i) nucleotide 120 of SEQ ID NO:1 wherein T is replaced by C;
 - (ii) nucleotide 464 of SEQ ID NO:1 wherein T is replaced by G;
 - (iii) nucleotide 519 of SEQ ID NO:1 wherein C is replaced by T;
 - (iv) nucleotide 668 of SEQ ID NO:1 wherein C is replaced by T;
 - (v) nucleotide 1059 of SEQ ID NO:1 wherein T is replaced by C;
 - (vi) nucleotide 1289 of SEQ ID NO:1 wherein C is replaced by A;
 - (vii) nucleotide 1308 of SEQ ID NO:1 wherein T is replaced by C; and
- (viii) nucleotide 1784 of SEQ ID NO:1 wherein G is replaced by A; or the complement thereof; and







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(c) determining if the test sample comprises a nucleic acid molecule that hybridizes to the probe.

193. (Amended) A method comprising:

- (a) providing a test sample comprising nucleic acid molecules present in a biological sample obtained from an individual;
- (b) contacting the test sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:1, the probe comprising at least two of:
 - (i) nucleotide 120 of SEQ ID NO:1 wherein T is replaced by C;
 - (ii) nucleotide 464 of SEQ ID NO:1 wherein T is replaced by G;
 - (iii) nucleotide 519 of SEQ ID NO:1 wherein C is replaced by T;
 - (iv) nucleotide 668 of SEQ ID NO:1 wherein C is replaced by T;
 - (v) nucleotide 1059 of SEQ ID NO:1 wherein T is replaced by C;
 - (vi) nucleotide 1289 of SEQ ID NO:1 wherein C is replaced by A;
 - (vii) nucleotide 1308 of SEQ ID NO:1 wherein T is replaced by C; and
- (viii) nucleotide 1784 of SEQ ID NO:1 wherein G is replaced by A; or the complement thereof; and
- (c) determining if the test sample comprises a nucleic acid molecule that hybridizes to the probe.
- 194. (Amended) The method of claim 192 or 193 wherein the probe comprises no more than 500 contiguous nucleotides of SEQ ID NO:1.
- 195. (Amended) The method of claim 192 or 193 wherein the probe comprises no more than 200 contiguous nucleotides of SEQ ID NO:1.
- 196. (Amended) The method of claim 192 or 193 wherein the probe comprises no more than 100 contiguous nucleotides of SEQ ID NO:1.



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197. (Amended) The method of claim 192 or 193 wherein the probe comprises no more than 50 contiguous nucleotides of SEQ ID NO:1.

198. (Reiterated) The method of claim 192 or 193 wherein the probe is a DNA probe.

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- 199. (Reiterated) The method of claim 192 or 193 wherein the probe is a peptide nucleic acid probe.
- 200. (Reiterated) The method of claim 192 or 193 wherein the probe comprises a detectable label.
- 201. (Reiterated) The method of claim 200 wherein the detectable label is a fluorescent label.